



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/304,879	05/04/1999	HAROLD W. JOHNSON	1212	1275

28004 7590 03/10/2004
SPRINT
6391 SPRINT PARKWAY
KSOPHT0101-Z2100
OVERLAND PARK, KS 66251-2100

EXAMINER

WEST, LEWIS G

ART UNIT PAPER NUMBER

2682

DATE MAILED: 03/10/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

CPA

Office Action Summary

Application No.

09/304,879

Applicant(s)

JOHNSON, HAROLD W.

Examiner

Lewis G. West

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,10-83,85 and 92-125 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,10-83,85 and 92-125 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments filed February 20, 2004 have been fully considered but they are not persuasive. Arguments relate to newly added limitations and are not persuasive. Arguments regarding "configuration" and "allocation" being different are not persuasive, as they are both broad terms, and the functional definition of a MAC layer is to be dynamically configured or reallocated based on delivery requirements. Fuzzy logic also is a broad term, which can apply to any logic with multiple variables, as multiple variables will inherently cause partially true or partially false outputs, and therefore "fuzzy logic".

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11, 13-16, 18, 22, 27, 30-57, 59, 63, 68, 71-93, 95, 98, 100, 104, 109, 112-125 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Raychaudhuri (US 5,638,371).

Regarding claim 1, Raychaudhuri discloses a method for communicating between a communications device and a network system, the method comprising: receiving a request for a communication service into a base station system over a wireless transmission link; in response to receiving the request, dynamically configuring a media access control (MAC) layer in the wireless transmission link for the requested

communication service using fuzzy logic; and generating and transmitting an instruction to provide the requested communication service over the wireless transmission link using the dynamically configured MAC layer. (Column 7 lines 20-40; column 9 lines 42-67)

Regarding claim 3, Raychaudhuri discloses the method of claim 2 wherein identifying the section of the MAC layer of the wireless transmission link for the requested communication service further comprises identifying a control family for the requested communication services wherein the control family relates to the section of the MAC layer. (Col. 11 line 50- col. 12 line 60)

Regarding claim 10, Raychaudhuri discloses the method of claim 2 wherein arbitrating access is further comprised of prorating among communication services based on usage parameter control values. (Col. 7 lines 6-55)

Regarding claim 11, Raychaudhuri discloses The method of claim 2 wherein arbitrating access is further comprised of using first come first serve logic. (Col. 3 lines 52-61)

Regarding claim 13, Raychaudhuri discloses the method of claim 2 wherein arbitrating access is further comprised of using fair queuing logic. (Col. 3 lines 52-61)

Regarding claim 14, Raychaudhuri discloses the method of claim 2 wherein arbitrating access is further comprised of using burst servicing logic. (Col. 3 lines 52-61)

Regarding claim 15, Raychaudhuri discloses the method of claim 2 wherein arbitrating access is further comprised of using time of expiry logic. (Col. 10 lines 33-39)

Regarding claim 16, Raychaudhuri discloses the method of claim 1 wherein the communication service is voice communication. (Col. 4 line 36-53)

Regarding claim 18, Raychaudhuri discloses the method of claim 1 wherein the communication service is modem communication. (Col. 4 line 36-53)

Regarding claim 22, Raychaudhuri discloses the method of claim 1 wherein the communication service is data transfer. (Col. 4 line 36-53)

Regarding claim 27, Raychaudhuri discloses the method of claim 1 wherein the communication service is desktop multimedia communication. (Col. 4 line 36-53)

Regarding claim 30, Raychaudhuri discloses the method of claim 1 wherein dynamically configuring the MAC layer in the wireless transmission link is based on delivery requirements of communication services. (Col. 7 lines 6-40)

Regarding claim 31, Raychaudhuri discloses the method of claim 30 wherein the delivery requirement is time dependency. (Col. 7 lines 6-40)

Regarding claim 32, Raychaudhuri discloses the method of claim 30 wherein the delivery requirement is a need for real time communication. (Col. 4 line 36-53)

Regarding claim 33, Raychaudhuri discloses the method of claim 30 wherein the delivery requirement is quality of service. (Col. 7 lines 6-40)

Regarding claim 34, Raychaudhuri discloses the method of claim 30 wherein the delivery requirement is traffic pattern. (Col. 11 line 50- col. 12 line 60)

Regarding claim 35, Raychaudhuri discloses the method of claim 30 wherein the delivery requirement is bandwidth. (Col. 3 lines 62-64)

Regarding claim 36, Raychaudhuri discloses the method of claim 30 wherein the delivery requirement is grade of service. (Col. 7 lines 6-40)

Regarding claim 37, Raychaudhuri discloses the method of claim 1 wherein the MAC layer of the wireless transmission link further comprises a fixed allocation sub frame and a dynamic allocation sub frame. (Col. 7 lines 6-40)

Regarding claim 38, Raychaudhuri discloses the method of claim 37 wherein the fixed allocation sub frame further comprises requests slots for reservation information. (Col. 7 lines 6-19)

Regarding claim 39, Raychaudhuri discloses the method of claim 37 wherein the fixed allocation sub frame further comprises constant bit rate slots for voice packets. (Col. 7 lines 6-40)

Regarding claim 40, Raychaudhuri discloses The method of claim 37 wherein the dynamic allocation sub frame further comprises variable bit rate slots for variable bit rate packets. (Col. 7 lines 6-40)

Regarding claim 41, Raychaudhuri discloses the method of claim 37 wherein the dynamic allocation sub frame further comprises data slots for data packets. (Col. 7 lines 6-40)

Regarding claim 42, Raychaudhuri discloses a software product comprising: communication software operational when executed by a processor to direct the processor to receive a request for a communication service into a base station system over a wireless transmission link, in response to receiving the request, dynamically configure a media access control (MAC) layer in the wireless transmission link for the requested communication service using fuzzy logic, and generate and transmit an instruction to provide the requested communication service over the wireless transmission link using

the dynamically configured MAC layer; and a software storage medium operational to store the communication software. (Column 7 lines 20-40; column 9 lines 42-67)

Regarding claim 44, Raychaudhuri discloses The software product of claim 43 wherein the communication software is operational when executed by the processor to direct the processor to identify a control family for the requested communication services wherein the control family relates to the section of the MAC layer. (Col. 11 line 50- col. 12 line 60)

Regarding claim 51, Raychaudhuri discloses The software product of claim 43 wherein the communication software is operational when executed by the processor to direct the processor to prorate among communication services based on usage parameter control values. (Column 7 lines 20-40)

Regarding claim 52, Raychaudhuri discloses The software product of claim 43 wherein the communication software is operational when executed by the processor to direct the processor to use first come first serve logic. (Col. 3 lines 52-61)

Regarding claim 54, Raychaudhuri discloses the software product of claim 43 wherein the communication software is operational when executed by the processor to direct the processor to use fair queuing logic. (Col. 3 lines 52-61)

Regarding claim 55, Raychaudhuri discloses The software product of claim 43 wherein the communication software is operational when executed by the processor to direct the processor to use burst servicing logic. (Col. 3 lines 52-61)

Regarding claim 56, Raychaudhuri discloses the software product of claim 43 wherein the communication software is operational when executed by the processor to direct the processor to use time of expiry logic. (Col. 10 lines 33-39)

Regarding claim 57, Raychaudhuri discloses the method of claim 1 wherein the communication service is voice communication. (Col. 4 line 36-53)

Regarding claim 59, Raychaudhuri discloses the method of claim 1 wherein the communication service is modem communication. (Col. 4 line 36-53)

Regarding claim 63, Raychaudhuri discloses the method of claim 1 wherein the communication service is data transfer. (Col. 4 line 36-53)

Regarding claim 68, Raychaudhuri discloses the method of claim 1 wherein the communication service is desktop multimedia communication. (Col. 4 line 36-53)

Regarding claim 71, Raychaudhuri discloses The software product of claim 42 wherein the communication software is operational when executed by a processor to direct the processor to dynamically configure the MAC layer in the wireless transmission link based on delivery requirements of communication services. (Col. 7 lines 6-40)

Regarding claim 72, Raychaudhuri discloses the software product of claim 71 wherein the delivery requirement is time dependency. (Col. 7 lines 6-40)

Regarding claim 73, Raychaudhuri discloses the software product of claim 71 wherein the delivery requirement is a need for real time communication. (Col. 4 line 36-53)

Regarding claim 74, Raychaudhuri discloses the software product of claim 71 wherein the delivery requirement is quality of service. (Col. 7 lines 6-40)

Regarding claim 75, Raychaudhuri discloses the software product of claim 71 wherein the delivery requirement is traffic pattern. (Col. 11 line 50- col. 12 line 60)

Regarding claim 76, Raychaudhuri discloses the software product of claim 71 wherein the delivery requirement is bandwidth. (Col. 3 lines 62-64)

Regarding claim 77, Raychaudhuri discloses the software product of claim 71 wherein the delivery requirement is grade of service. (Col. 7 lines 6-40)

Regarding claim 78, Raychaudhuri discloses the software product of claim 42 wherein the MAC layer of the wireless transmission link further comprises a fixed allocation sub frame and a dynamic allocation sub frame. (Col. 7 lines 6-40)

Regarding claim 79, Raychaudhuri discloses the software product of claim 78 wherein the fixed allocation sub frame further comprises requests slots for reservation information. (Col. 7 lines 6-40)

Regarding claim 80, Raychaudhuri discloses the software product of claim 78 wherein the fixed allocation sub frame further comprises constant bit rate slots for voice packets. (Col. 7 lines 6-40)

Regarding claim 81, Raychaudhuri discloses The software product of claim 78 wherein the dynamic allocation sub frame further comprises variable bit rate slots for variable bit rate packets. (Col. 7 lines 6-40)

Regarding claim 82, Raychaudhuri discloses the software product of claim 78 wherein the dynamic allocation sub frame further comprises data slots for data packets. (Col. 7 lines 6-40)

Regarding claim 83, Raychaudhuri discloses A wireless communication system for communicating between a communications device and a network system, the communication system comprising: a subscriber unit system that is configured to transmit a request for a communication service for the communication device, exchange communications for the communication service with the communication device over a wireless transmission link identified in an instruction using a dynamically configured

media access control (MAC) layer; and a base station system that is configured to receive the request over the wireless transmission link for the communication service, in response to receiving the request, dynamically configure the MAC layer in the wireless transmission link for the requested communication service using fuzzy logic, and generate and transmit the instruction. (Column 7 lines 20-40; column 9 lines 42-67)

Regarding claim 85, Raychaudhuri discloses the wireless communication system of claim 84 wherein the base station system is configured to identify a control family for the requested communication services wherein the control family relates to the section of the MAC layer. (Col. 11 line 50- col. 12 line 60)

Regarding claim 92, Raychaudhuri discloses the wireless communication system of claim 84 wherein the base station system is configured to prorate among communication services based on usage parameter control values. (Col. 7 lines 6-40)

Regarding claim 93, Raychaudhuri discloses the wireless communication system of claim 84 wherein the base station system is configured to use first come first serve logic. (Col. 3 lines 52-61)

Regarding claim 95, Raychaudhuri discloses the wireless communication system of claim 84 wherein the base station system is configured to use fair queuing logic. (Col. 3 lines 52-61)

Regarding claim 96, Raychaudhuri discloses The wireless communication system of claim 84 wherein the base station system is configured to use burst servicing logic. (Col. 3 lines 52-61)

Regarding claim 97, Raychaudhuri discloses the wireless communication system of claim 84 wherein the base station system is configured to use time of expiry logic. (Col. 10 lines 33-39)

Regarding claim 98, Raychaudhuri discloses the method of claim 1 wherein the communication service is voice communication. (Col. 4 line 36-53)

Regarding claim 100, Raychaudhuri discloses the method of claim 1 wherein the communication service is modem communication. (Col. 4 line 36-53)

Regarding claim 104, Raychaudhuri discloses the method of claim 1 wherein the communication service is data transfer. (Col. 4 line 36-53)

Regarding claim 109, Raychaudhuri discloses the method of claim 1 wherein the communication service is desktop multimedia communication. (Col. 4 line 36-53)

Regarding claim 112, Raychaudhuri discloses The wireless communication system of claim 83 wherein the base station system that is configured to dynamically configure the MAC layer in the wireless transmission link is based on delivery requirements of communication services. (Col. 7 lines 6-40)

Regarding claim 113, Raychaudhuri discloses the wireless communication system of claim 112 wherein the delivery requirement is time dependency. (Col. 7 lines 6-40)

Regarding claim 114, Raychaudhuri discloses the wireless communication system of claim 112 wherein the delivery requirement is the need for real time communication. (Col. 4 line 36-53)

Regarding claim 115, Raychaudhuri discloses the wireless communication system of claim 112 wherein the delivery requirement is quality of service. (Col. 7 lines 6-40)

Regarding claim 116, Raychaudhuri discloses the wireless communication system of claim 112 wherein the delivery requirement is traffic pattern. (Col. 11 line 50- col. 12 line 60)

Regarding claim 117, Raychaudhuri discloses the wireless communication system of claim 112 wherein the delivery requirement is bandwidth. (Col. 3 lines 62-64)

Regarding claim 118, Raychaudhuri discloses the wireless communication system of claim 112 wherein the delivery requirement is grade of service. (Col. 7 lines 6-40)

Regarding claim 119, Raychaudhuri discloses the wireless communication system of claim 83 wherein the MAC layer of the wireless transmission link further comprises a fixed allocation sub frame and a dynamic allocation sub frame. (Col. 7 lines 6-40)

Regarding claim 120, Raychaudhuri discloses the wireless communication system of claim 119 wherein the fixed allocation sub frame further comprises requests slots for reservation information. (Col. 7 lines 6-40)

Regarding claim 121, Raychaudhuri discloses the wireless communication system of claim 119 wherein the fixed allocation sub frame further comprises constant bit rate slots for voice packets. (Col. 7 lines 6-40)

Regarding claim 122, Raychaudhuri discloses The wireless communication system of claim 119 wherein the dynamic allocation sub frame further comprises variable bit rate slots for variable bit rate packets. (Col. 7 lines 6-40)

Regarding claim 123, Raychaudhuri discloses the wireless communication system of claim 119 wherein the dynamic allocation sub frame further comprises data slots for data packets. (Col. 7 lines 6-40)

Regarding claim 124, Raychaudhuri discloses the wireless communication system of claim 83 wherein the subscriber unit system further comprises a communication interface system, a multiplexer, and a subscriber wireless transceiver. (Column 6 lines 35-46)

Regarding claim 125, Raychaudhuri discloses the wireless communication system of claim 83 wherein the base station system further comprises a base wireless transceiver, a multiplexer, a connection admission control system, and a network interface system. (Column 6 lines 19-34)

3. Claims 17, 19-21, 23-26, 28-29, 58, 60-62, 64-67, 69, 70, 99, 101-103, 105-108, and 110-111 rejected under 35 U.S.C. 103(a) as being unpatentable over Raychaudhuri.

Regarding claims 17, 19-21, 23-26 and 28-29, Raychaudhuri discloses the method of claim 1 wherein various types of multimedia communication are used and that any type of multimedia may be used (Col. 4 line 36-53). Though, not expressly disclosed, Examiner takes official notice that it was notoriously obvious in the art at the time of the invention that facsimile, audio broadcast, web browsing, file transfer, network gaming, PUSH, chat room communication, e-mail, video broadcast and video conferencing are various types of multimedia communication. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use any or all of these types of communication, to provide every possible service to a user, which would be necessary to stay competitive in the telecommunications market.

Regarding claims 58, 60-62, 64-67, 69 and 70, Raychaudhuri discloses the method of claim 1 wherein various types of multimedia communication are used and that

any type of multimedia may be used (Col. 4 line 36-53). Though, not expressly disclosed, Examiner takes official notice that it was notoriously obvious in the art at the time of the invention that facsimile, audio broadcast, web browsing, file transfer, network gaming, PUSH, chat room communication, e-mail, video broadcast and video conferencing are various types of multimedia communication. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use any or all of these types of communication, to provide every possible service to a user, which would be necessary to stay competitive in the telecommunications market.

Regarding claims 99, 101-103, 105-108 and 110-111, Raychaudhuri discloses the method of claim 1 wherein various types of multimedia communication are used and that any type of multimedia may be used (Col. 4 line 36-53). Though, not expressly disclosed, Examiner takes official notice that it was notoriously obvious in the art at the time of the invention that facsimile, audio broadcast, web browsing, file transfer, network gaming, PUSH, chat room communication, e-mail, video broadcast and video conferencing are various types of multimedia communication. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use any or all of these types of communication, to provide every possible service to a user, which would be necessary to stay competitive in the telecommunications market.

4. Claims 12, 53, and 94 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Raychaudhuri in view of Boucher et al. (US 6,226,680 B1).

Regarding claim 12, Raychaudhuri discloses the method of claim 2 wherein arbitrating access is further comprised of using various types of logic. Raychaudhuri does

not expressly disclose last come first serve logic. Boucher discloses using last come first serve logic with a MAC layer. (Col. 16) Therefore it would have been obvious to one of ordinary skill in the art to use last come first serve logic in arbitrating the MAC layer, in order to implement a stack type system.

Regarding claim 53, the combination of Raychaudhuri discloses the method of claim 2 wherein arbitrating access is further comprised of using various types of logic. Raychaudhuri does not expressly disclose last come first serve logic. Boucher discloses using last come first serve logic with a MAC layer. (Col. 16) Therefore it would have been obvious to one of ordinary skill in the art to use last come first serve logic in arbitrating the MAC layer, in order to implement a stack type system.

Regarding claim 94, t Raychaudhuri discloses the method of claim 2 wherein arbitrating access is further comprised of using various types of logic. Raychaudhuri does not expressly disclose last come first serve logic. Boucher discloses using last come first serve logic with a MAC layer. (Col. 16) Therefore it would have been obvious to one of ordinary skill in the art to use last come first serve logic in arbitrating the MAC layer, in order to implement a stack type system.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis G. West whose telephone number is 703-308-9298. The examiner can normally be reached on Monday-Thursday 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2682

Lewis West
(703) 308-9298
March 4, 2004



VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

3/8/04